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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,637	01/12/2004	Nobuyoshi Awaya	SLA 0744	1070

7590 01/11/2005  
David C. Ripma, Patent Counsel  
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EXAMINER

DINH, JACK

ART UNIT PAPER NUMBER

2873

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

# Office Action Summary

Application No.

10/755,637

Applicant(s)

AWAYA ET AL.

Examiner

Jack Dinh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-20 is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-10 is/are rejected.
- 7) ☒ Claim(s) 2 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/12/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |                                                                                                                                           |                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                               | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                      | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0104</u> . | 6) <input checked="" type="checkbox"/> Other: <u>DETAILED ACTION</u> .                  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1 and 7-10 are rejected under 35 U.S.C. 102(e) as being unpatentable by Takahashi (US Patent 6,791,792).

Regarding claims 1 and 7-9, Takahashi (figure 3) is interpreted as disclosing a nonvolatile display comprising a plurality of electrodes **304** and **306** arranged opposite each other, and a nonvolatile solid state electro-optic medium **305** disposing between the electrodes, wherein the nonvolatile solid state electro-optic medium is a perovskite material having magnetoresistive effect under the influence of an electric field (col. 4, lines 3-39).

Regarding claim 10, Takahashi (figure 2) is interpreted as disclosing a nonvolatile solid state electro-optic device comprising a nonvolatile solid state electro-optic medium **204** wherein the nonvolatile solid state electro-optic medium is a perovskite material having magnetoresistive effect under the influence of an electric field (col. 4, lines 3-39).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3, are rejected under 35 U.S.C. 102(e) as being unpatentable by Takahashi (US Patent 6,791,792), as applied in claim 1.

Regarding claim 3, Takahashi discloses all the claimed limitations, as described above, except that the electrodes are disposed on the inner surfaces of the substrates. Although Takahashi does not disclose the presence of the two substrates, the Applicant has not disclosed any unexpected results this would have over the configuration of the prior art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the substrates for the purpose of providing a foundation for the electrodes.

3. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Patent 6,791,792), as applied in claim 1, in view of Atobe et al. (US Patent 6,650,461).

Regarding claims 5 and 6, Takahashi is interpreted as disclosing all the claimed limitations, as described above, except that the electrode is transparent and is made of indium tin oxide. Within the same field of endeavor, Atobe discloses the teaching that electrode can be made transparent from indium tin oxide. Therefore, it would have been obvious to one of

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ordinary skill in the art at the time the invention was made to provide the transparent electrodes made of indium tin oxide, as taught by Atobe, for the purpose of viewing the display.

***Allowable Subject Matter***

4. Claims 2 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 11-20 are allowed. The following is a statement of reasons for the indication of allowable subject matter. Regarding claim 2 the prior art fails to disclose that the electrodes are arranged in the form of cross bar array for applying electric field to selected areas of the nonvolatile solid state electro-optic medium. Regarding claim 4, the prior art fails to disclose a plurality of polarizer layers sandwiching the nonvolatile solid state electro-optic medium. Regarding claim 11, the prior art fails to disclose a modulator comprising a nonvolatile solid state electro-optic medium of a perovskite material having magnetoresistive effect under the influence of an electric field, disposed in the close proximity of the two electrodes, and a plurality of optical waveguides supported in the electro-optic medium. The claimed invention is therefore considered to be in condition for allowance as being novel and non-obvious over prior art.

5. The prior art taken either singly or in combination fails to anticipate or fairly suggest the limitations of the independent claims, in such a manner that a rejection under 35 USC 102 or 103 would be improper. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Other Information/Remarks***

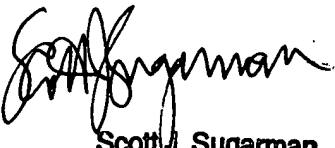
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wallin (U.S. Patent No. 5,937,264) discloses examples of rare earth perovskites with the general formula.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Dinh whose telephone number is 571-272-2327. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jack Dinh

  
Scott J. Sugarman  
Primary Examiner